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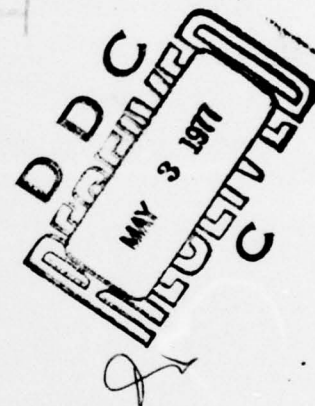UNCLASSIFIED   NL

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MEASUREMENT OF ETHNIC-RACIAL AND CULTURAL
PERCEPTIONS AND ATTITUDES THROUGH WORD ASSOCIATIONS.

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MEASUREMENT OF ETHNIC-RACIAL AND CULTURAL
PERCEPTIONS AND ATTITUDES THROUGH WORD ASSOCIATIONS

The investigations conducted during the last four years under ONR
sponsorship have involved the development and testing of a new research
technique for measuring group differences in perceptions, attitudes, and
values. The technical reports and journal articles generated by this
research are listed in the Appendix. This report summarizes the basic
rationale and central objectives of the series of studies, integrates the
major findings, and presents some implications for future utilization of
the technique developed.

BACKGROUND

At the time the Office of Naval Research decided to sponsor these
investigations (1971), interracial tensions, intergenerational conflicts,
and social alienation represented some of the most acute problems afflicting
contemporary American society. There has been increasing recognition that
the attitudes, beliefs, and value systems of various social groups (e.g.,
Blacks, Spanish Americans) show distinct differences from the mainstream of
American society and because of these differences they are naturally less
responsive to the reasoning, communications, and social measures that reflect
the priorities in the frame of reference of the mainstream. As one of the
largest institutions, the armed services are naturally affected by these
social problems in many ways. Because of their structure and organization,
the services have a unique potential for handling various types of social
conflict, but the lack of solid, empirically founded knowledge of the actual
attitudes and beliefs that motivate particular social groups has hampered
the realization of this potential.

The central idea behind these investigations was to further test and
develop an innovative research technique, Associative Group Analysis (AGA),
which had already produced extensive data on cultural differences. Its
applicability to domestic problems involving race relations and intercultural
communication appeared to be promising.

APPROACH

In dealing with the intangible, but frequently pervasive problems produced by psychocultural differences, the Associative Group Analysis method, which is based on word associations, seems to offer several important advantages. First, it is an indirect method which does not ask specific questions or force people to make rational, logical choices; instead, it elicits spontaneous responses to word or picture stimuli and then infers salient concerns and attitudes on a group basis from the distribution of their associative responses. Furthermore, the method does not seem to be affected by some of the common problems of direct approaches such as acquiescence, social desirability, and other similar biases. Previous research findings have indicated that the word association approach could be used to determine perceptual and attitudinal dispositions which the people themselves are not really aware of or are unable to communicate.

In view of the applicability of these methodological characteristics to the problems at hand in the field of race relations and interracial or intercultural communications, a series of investigations was designed to pursue the following objectives.

OBJECTIVES

The objectives listed below include the original aims as well as those which emerged from the ongoing research:

- To validate the Associative Group Analysis method by comparing it with other measures of subjective meanings and attitudes

- To assess the extent to which word association based inferences on attitudes provide for valid predictions of overt social behavior

- To determine how effective the method is in identifying cultural differences in subcultural comparisons where differences are probably less pronounced than in cross-cultural comparisons

- To compare the relative effectiveness of word-stimulated and picture-stimulated associations in the assessment of ethnic-racial perceptions and attitudes

- To test the effectiveness of AGA in the analysis of subjective culture at low, medium, and high levels of generality using both word- and picture-stimulated associations

- To determine the utility of the AGA method in measuring the perceptual and attitudinal effects of selected communications

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MAJOR FINDINGS

Validation of Word Association Based Inferences on Meanings

To test the validity of the Associative Group Analysis method in the assessment of group meanings, the association-based similarity measure was compared to other independent measures of meaning and meaning similarity. A natural limitation of comparative studies using other measures as validation criteria is that the criterion measure may have limited validity which can be shown only if we have some sort of ultimate criteria. In lack of such criteria, we have used five independent measures: semantic differential, sentence frame substitution, similarity scaling or judgment, grouping/-classification, and judgment of relationship. [TR No. 1]

The results were conclusive. The word association based similarity measure showed high positive correlations with most of the other measures of meaning similarity, indicating that word associations provide a useful measure of meaning similarity whose validity is comparable to that of the leading established measures.

There was one exception, the semantic differential, which produced no significant correlations with any of the similarity measures. This difference between the semantic differential and other meaning measures was progressively reduced by using word association data to adapt the scales to be more relevant to the word or domain under study.

At a theoretical level, the fundamental agreement between the associative measures and the similarity measures---including the adapted semantic differential---suggests that theoretical positions which contrast associations with meaning are exaggerated. At a practical level, the findings not only validate the associative method as a meaning measure but also offer a strategy by which the advantages of the semantic differential scaling can be retained while extending its applicability to cognitive components by the use of word associations.

Validation of Word Association Based Inferences on Attitudes

To test the validity of the word association method in attitude assessment, the association-based Evaluative Dominance Index (EDI) was compared to a variety of independent paper-and-pencil attitude measures.

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One comparison included attitude scores obtained from the EDI, the standard semantic differential, the semantic differential evaluation scales only, and a seven-point connotation scale. Nearly all correlations were at the .8 level. In addition to helping validate the EDI as an attitude measure, the findings showed that the standard semantic differential, which showed little correlation with the meaning measures, does correlate highly with attitude measures. [TR No. 1]

To further test the EDI as an indirect attitude measure on an individual and group basis, another series of experiments compared the EDI with two direct measures: an attitude questionnaire and the seven-point connotation scale. At the group level (based on 50 subjects) correlations of the association-based attitude measure with the criterion measures were in the range of .9. At the individual level (based on 20 individual subjects) the average correlations were in the range of .8. [TR No. 2]

The results show that generally the Associative Group Analysis method does as well as any of the criterion measures in dealing with the problem of attitude assessment. Moreover, because of the indirect, inferential nature of the association method, which makes it less susceptible to such biases as social desirability and acquiescence, AGA is likely to have some potential advantages.

Association-Based Attitudinal Inferences as Predictors of Social Behavior

To determine the relative value of attitude data in predicting overt behavior, the association-based EDI was compared with several other indirect and direct attitude measures.

One comparison involved the use of the "Bogus Pipeline," a research strategy which convinces the subject he is being monitored by a type of lie detector and then asks his attitudes on various topics. The Bogus Pipeline and EDI attitudinal data produced low positive correlations. In an attempt to determine which was a better predictor of behavior, 50 White subjects whose attitudes toward Blacks had been obtained by other methods were asked some time later to do volunteer work in a toy lending library serving poor inner-city Black families. Neither attitude measure showed any significant correlation with the actual behavior of volunteering, which appeared to

indicate that prediction of complex social behavior requires more than knowledge of a single attitude.   [TR No. 2]

In a subsequent experiment a behavioral questionnaire was used to test whether the amount of social constraints in a given situation may affect the relationship of attitudes and behavior. The EDI attitude data were supplemented with other association-based data and compared with direct attitude data obtained from an attitude questionnaire. The direct attitude measure did somewhat better in predicting behavior involving low situational constraints such as presidential preference and voting behavior. On issues involving more situational constraints, such as participation in church-related activities and participation in civil rights movements, the EDI attitude data combined with other association-based data appeared to be a somewhat better predictor of overt behavior than the direct attitudinal measure.   [TR No. 2]

The results of these experiments have generally supported the conclusion that the relative value of direct and indirect attitude measures in predicting overt behavior apparently varies depending on the amount of situational constraints involved. They also indicate that attitude data alone provide poorer predictions than attitude data combined with other types of perceptual information (e.g., the subjective importance of a particular attitudinal issue).

Generally, the findings suggest that the association-based inferences provide for a combined use of attitudinal, perceptual, and priority data. The value of the associative technique follows from its potential to provide rich perceptual as well as attitudinal information from a single unstructured association task.

Assessment of Ethnic-Racial Images and Attitudes

In applying the word association technique to domestic group comparisons, perceptual and attitudinal data were obtained from Black, White, and Spanish groups to study the relationship of ethnic-racial background, attitudes, and perceptions. Responses to the stimulus words BLACKS, WHITES, and SPANISH AMERICANS were analyzed to show each group's image of its own race and of the other ethnic-racial groups. Attitudinal data obtained using the connotation

scale showed sizable differences among the three groups, reflecting the high emotional loading of the domain of race relations. Parallel to the attitudinal profiles, image profiles were constructed which mapped the Black and White groups' attitudes and perceptions of the social environment, which was represented by nine stimuli (ME, FAMILY, FRIENDS, COLLEGE, CHURCH, COMMUNITY, SOCIETY, GOVERNMENT, and U.S.). [TR No. 2]

There was generally more similarity in the attitudes of these groups than in their perceptions. That is, there was more agreement in the evaluation of these social units than in the specific characteristics ascribed to them by the Black, White, and Spanish groups.

The association-based data allowed to identify similarities in these groups' perceptions in some areas while they have revealed specific differences in others. The results have shown that the associative technique has the sensitivity required to measure subcultural group differences.

Use of Picture-Stimulated Associations in the Assessment of Perceptions and Attitudes

In general, perceptual data are not readily available, and testing the validity of perceptual data presents difficult methodological problems. To explore what the word association data tell us on perceptual details, we used pictures as stimuli in a series of experiments. It was interesting to explore, for instance, how the perceptual details conveyed by associations to a picture of Martin Luther King compare to the actual details shown by the picture.

Such comparisons have indicated that the word associations elicited by a picture show many details of the visual presentation but they are not limited to what is shown. Furthermore, various details receive different attention. The associations included qualities (e.g., honesty), activities (marching), and memories (assassination), which were not present in the picture but apparently stored in the memory of the respondents. [TR No. 2]

In a more extensive comparative analysis of associations produced to words and pictures, the results showed that the two approaches are closely comparable but produced responses which are differently focused. While the word-stimulated responses were somewhat more generic, the picture-stimulated

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associations were more narrow and specific. All the measures developed
previously in the context of word-stimulated associations were found to
be equally applicable and informative with picture-stimulated associations.
[TR No. 3]

In support of the previously described findings suggesting the value
of word association data in measuring perceptual variables, the picture-
based findings opened new areas for the extension of the association-based
methodology using picture-stimulated reactions.

In a first study of this type, the picture-stimulated technique was
applied to a comparative analysis of Black and White groups' reactions to
TAT (Thematic Apperception Test) and social interaction pictures. These
data showed beyond similarities some apparent differences in how the Black
and White samples viewed and evaluated the same pictures. Furthermore,
there was considerable consistency in the perceptual and attitudinal trends
as they emerged in the Black-White comparison across pictures and later
across several studies. The findings showed some areas of perceptual trends
which have received little or no attention in the literature; however, testing
the generality of these trends would have required the use of larger and more
representative samples. [TR No. 3]

Indepth Analysis of Subjective Culture: Puerto Rican - U.S. Comparison

The relative value of the word- and picture-stimulated association
methods in the comparative analysis of subjective culture was tested using
U.S. and Puerto Rican college student samples. The inferences drawn from
the word- and picture-stimulated association methods were compared at three
levels. At the level of single selected stimuli the inferences were
informative in revealing the group-characteristic meanings, perceptions,
and evaluations of specific words and pictures. At the level of domains
represented by 16-20 stimuli, the analysis was found to be informative on
broader problem areas like family and education. At the third level,
conceived as representing subjective culture, the inferences from hundreds
of thousands of responses obtained to 160 stimulus words and 80 pictures
were compared and the consistency of response trends was tested. [TR No. 4]

The task of comparative culture analysis boils down to two main problems. First, it is critical to know what is important to a particular foreign culture compared to our own culture---that is, what are the salient concerns, priorities, and themes of high motivational appeal for each culture. The next major problem is to find out how these cultural priorities are perceived and evaluated by people from the other culture compared to how we see them.

The results of this study illustrate that both of these questions can be answered by using word associations. The analysis of salient response trends across large samples of stimuli in several domains clearly shows what is important for the culture groups compared. This analysis can be used to show the importance of a particular theme compared to other themes or to show the importance of that theme to different groups. However, it does not show why the theme is important. A group may be found to assign unusually great importance to money, for instance, but we cannot tell whether this is because money is scarce or because in the general hierarchy of cultural values it occupies a particularly high position. A content analytic technique is used to clarify these ambiguities by showing how the salient themes are perceived and understood. This analysis illustrates the potential value of word associations for revealing cultural differences in the meanings of themes and in the perceptions of pictures.

These two categories of information---motivational (what is important) and perceptual-evaluative (how things are viewed and evaluated)---complement each other and can be conveniently combined. The information obtained on cultural priorities and their meanings, together with the data obtained on selected parameters of cognitive organization---similarity, affinity, affect loading---indicate an analytic potential for the assessment of a group's subjective culture.

The analytic capability of the word association approach was submitted to a test of consistency by comparing reactions stimulated by the same words and by the same pictures from two different cultural groups. Although the groups responded to the same or translation-equivalent stimulus words and to identical pictures, the response trends were found to be group-specific, characterized by certain stable patterns of differences. These trends showed a high level of consistency in the sense that the cultural priorities

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emerging from word-stimulated associations were generally in close agreement with those emerging from picture-stimulated associations for each group. [TR No. 4]

From the viewpoint of methodology, the results presented at three levels of analysis suggest that the association-based approach can be effectively focused both on narrow specifics of word meanings and picture perception and on the group's subjective culture as a whole.

Tracing and Mapping the Effects of Communications by Word Associations

To explore the utility of word- and picture-stimulated associations in assessing perceptual and attitudinal changes produced by selected communications, key themes and pictures strategically chosen from a particular communication were used as stimuli for eliciting associations from the audiences before and after the presentation of the communication. Two studies were conducted using this technique: one domestic subcultural application using Black and White groups, and one crosscultural application using U.S. and Puerto Rican groups.

In the domestic application the Black and White groups were shown two films involving racial interaction. Their reactions to the relevant stimuli were obtained before and after viewing the film to determine the film effects and group differences in perception and evaluation. Several trends emerged with consistency. The participants in the film episodes acquired individual identity and their human characteristics rather than physical appearance attracted considerable interest. Racial identity and racial differences gained increased salience and the central issues involved in the interaction captured more attention. [TR No. 3]

In the cross-cultural comparison the U.S. and Puerto Rican groups responded not only to films but also to editorials from a bilingual newspaper. A comparison of the two cultural groups' reactions to two editorials and two films has shown that the effects of communications on the U.S. and Puerto Rican subjects were frequently different and that these differences were generally in line with cultural dispositions previously identified. The changes produced by each particular communication could be traced clearly to two objectively identifiable sources: (1) the content of the communication

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as represented by the text or plot and (2) the characteristic Puerto Rican and U.S. perceptual and attitudinal priorities found in the broader comparative culture analysis and more specifically in the Puerto Rican and U.S. response distributions elicited by the indicator stimuli prior to the communication. Both of these sources were used extensively to provide solid, empirically founded reference bases for the evaluation of communication effects. [TR No. 4]

The results of these two studies indicate that word associations offer a sensitive analytic method which reveals the perceptual and attitudinal effects of selected communications along spontaneously emerging natural dimensions. The dominance scores showed how the communications affected the meaningfulness of selected key communication themes, revealing the distribution of the audience's attention and interest. The similarity coefficients offered simple quantitative indicators on which areas the communication had the most and the least effects. The content analysis was effective in identifying the major components and the intensity of perceptual and attitudinal changes along critical dimensions.

The complementary nature and consistency of the data obtained by the various measures support the conclusion that a multidimensional assessment of communication effects in terms of internal criteria of evaluation is a viable strategy. Most contemporary research strategies depend on external criteria chosen by the interest of the communicator. These criteria frequently suffer from arbitrariness and limited relevance. Even if the evaluation criteria adequately represent the goals or interests of the communicator (e.g., sales), they are not likely to reveal the actual effects of the communication in other important aspects. The multidimensional associative approach, with its focus on the message and the audience, offers additional insights by revealing the overall effects of the communications in terms of changes produced in perceptions and evaluations of its major elements (themes, actors, episodes). This information appears to be particularly valuable when dealing with groups whose background and culture are substantially different from those of the communicator.

Generally, the word association based research strategy can offer an indepth analysis of the audience group's perceptions and attitudes in the general subject area or domain of the message. With this emphasis, the information provided can be used to change the message so as to increase its impact.

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CONCLUSIONS AND RECOMMENDATIONS

Considerable progress has been made in the development and refinement of the innovative inferential technique for measuring group differences in attitudes and perceptions.

The method has been validated as a measure of meanings and attitudes, producing results comparable to all criterion measures except the semantic differential. This exception led to the development of a new strategy for making the semantic differential more relevant through a systematic scale selection based on the use of word association data.

In testing the method's capability to predict behavior from association-based attitudinal inferences, the results were inconclusive, although the other attitude measures used were no better predictors than the AGA measure. An important finding of this phase of research was that by supplementing the attitude data with other association-based information, the accuracy of behavioral predictions was increased. The development of a more effective strategy for predicting social behavior poses porblems such as accounting for situational constraints. By producing relevant perceptual as well as attitudinal data, the AGA method has a distinct potential to make useful contributions in this area.

The expansion of the word association approach through the use of pictorial stimuli represented another important development of the method's capabilities. It provided the opportunity to apply this indirect measurement technique to the evaluation of communication effects.

The Associative Group Analysis method has proven to be a highly sensitive technique for measuring group differences. It has shown differences not only between culture groups but also between domestic ethnic-racial groups as well as between the same group's reactions before and after a particular communication.

Further developments in the computer processing of the extensive data generated by this technique have greatly improved the efficiency and extended the scope of potential applicability of the method.

Thus, the word association technique produces several different types of information whose validity is comparable to that of other established

techniques. An important advantage of the associative technique is that it produces empirical data on several important psychological variables (attitudes, perceptions, images) from a single testing. Other characteristics of the AGA method make it particularly useful in application to problems in the complex, emotion-laden domain of interpersonal and race relations. The method is easy to administer and offers flexibility in use. It can be readily focused on any selected domain or area of interest. The data convey information on an inferential basis reflecting people's perceptual and attitudinal dispositions, motivational priorities, and fundamental cultural assumptions about which the people themselves are frequently unaware and cannot express or communicate.

There are two main avenues open to the Navy as an institution for taking advantage of this method, both requiring some additional work.

One involves the use of AGA as an evaluation or survey instrument, possibly in combination with more direct methods using questionnaires or interviews. This type of application promises useful insights particularly in situations where the groups to be studied are of different cultural backgrounds or where the issues and opinions to be explored have strong emotional or motivational components that are evasive to direct rational examination. Such a utilization might involve the evaluation of race relations training programs, measuring institutional climate, mapping changes in the values and belief systems of successive recruit samples, assessing career motivation and satisfaction, and the like. Although a few of these uses will require some further adaptation and development, the empirical data available on the critical parameters of the AGA method indicate that such adaptations are readily feasible and worthwhile.

The second main field of utilization involves the cultural information already available or to be collected for various educational and training purposes. For example, association-based curriculum material developed for race relations seminars could show critical areas of agreement and disagreement between Blacks and Whites and the nature and origin of their differential perceptions and attitudes in a communicable and teachable form.

There are successful efforts by organizers of overseas diplomacy courses in the Navy to use AGA material to illustrate cultural differences in

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perceptions and attitudes. They feel that beyond illustrations this material could also be used for the systematic teaching of salient cultural dispositions, what the Navy man has to be aware of and utilize in his communications and interactions with people from a particular foreign culture.

The development of such readily usable educational and training products based on AGA data appears to be the next logical step. It represents a critical link between this rich source of relevant cultural information and the practical needs of the Department of Navy in the fields of training and management of human resources. Although curriculum development and training are not along the Project Director's main line of expertise, he would be glad to cooperate with representatives of the Navy who are experts in these fields. Working in cooperation with representatives who are aware of timely needs and requirements suggests a natural way for the development of practical utilizations and products in direct support to educational, training, and management interests.

APPENDIX

RESEARCH PUBLICATIONS

TR No. 1   Measurement of Meaning Through Verbal Associations and Other Empirical Methods. Lorand B. Szalay and Jean A. Bryson. Kensington, Md.: American Institutes for Research, 1972.

TR No. 2   Ethnic-Racial Attitudes, Images, and Behavior by Verbal Associations. Lorand B. Szalay, Jean A. Bryson, and Garmon West. Kensington, Md.: American Institutes for Research, 1973.

TR No. 3   Ethnic-Racial Perceptions and Attitudes by Word and Picture Stimulated Associations. Lorand B. Szalay, Jean A. Bryson, and Garmon West. Washington, D. C.: American Institutes for Research, 1974.

TR No. 4   Subjective Culture and Communication: A Puerto Rican - U.S. Comparison. Lorand B. Szalay and Jean A. Bryson. Washington, D. C.: American Institutes for Research, 1975.

[TR No. 1]   "Psychological Meaning: Comparative Analyses and Theoretical Implications," L. B. Szalay and J. A. Bryson, Journal of Personality and Social Psychology, III (1974), 860-870.

[TR No. 3]   "Comparative Analysis of Words and Pictures Through Associations," L. B. Szalay and J. A. Bryson, Psychological Reports, 38 (1976), 275-296.

[TR No. 3]   "Perceptual and Attitudinal Trends of Black and White Groups from Picture-Stimulated Associations," L. B. Szalay, J. A. Bryson, and R. E. Williams. Under revision for resubmission to the Journal of Social Psychology.

[TR No. 3]   "Measurement of Perceptual Changes Produced by Film Episodes Involving Racial Interaction," L. B. Szalay, J. A. Bryson, and R. E. Williams. Submitted to the Journal of Communication.